Increasing Access to Primary-Care Based Obesity Services: A Quality Improvement Project

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Abstract

Obesity is a leading cause of morbidity and mortality, and management in primary care is currently suboptimal. This quality improvement (QI) project aimed to increase access to obesity management services in two primary care clinics in Oregon by increasing the number of primary care providers (PCPs) equipped to provide these services. Methods included evaluating a pilot primary care holistic weight management program (WMP), creating and disseminating a WMP guide to PCPs, and educating PCPs on obesity management. The primary intervention of this QI project was a 30-minute educational session for PCPs on obesity management and administration of a pre-and post-intervention survey. After the education session, PCPs reported increased confidence in certain aspects of obesity management and rated the WMP guide beneficial for clinical practice. Providers reported a lack of time as the main barrier to providing these services and decreased willingness to offer a WMP following the education session. WMP data analysis revealed that patients who completed the program experienced an average weight loss of 5.8% [95% CI (4.1, 7.5)] over an average of 5.7 months, indicating that this is an effective treatment approach to obesity management in the primary care setting. Further QI projects or research can build on this knowledge and investigate ways to increase the number of PCPs that offer holistic obesity services and evaluate the long-term effectiveness of primary-care-based WMPs.

Keywords: Obesity, overweight, obesity management, obesity therapy, weight management, attitude of health personnel, primary care, quality improvement.

Introduction

Problem Description

Obesity, defined as a body mass index (BMI) equal to or greater than 30 kg/m2, affects 42.4% of people in the United States (U.S.) (Centers for Disease Control and Prevention [CDC], 2021). Obesity is a leading cause of morbidity and mortality in the U.S and increases a person's risk of diabetes mellitus, coronary artery disease, gout, nonalcoholic fatty liver disease, and certain cancers (CDC, 2021; Semlitsch et al., 2019; Wharton et al., 2020). In Oregon, obesity is the second leading cause of preventable death, accounting for approximately 1,500 deaths annually (Oregon Health Authority [OHA], 2019). People with obesity (PWO) in Oregon have increased annual healthcare costs averaging $1429 more than those without obesity (OHA, 2019). This data emphasizes the importance of interventions to combat adverse risk factors associated with obesity to reduce morbidity, mortality, and healthcare costs.

Despite the high prevalence of obesity and its associated detrimental health effects, the management of obesity in the primary care (PC) setting is suboptimal, with average obesity screening and counseling rates in primary care of 30% (Fitzpatrick et al., 2016; Tronieri et al., 2019). Studies have found that providers' explicit and implicit biases toward PWO significantly contribute to morbidity and mortality rates (Alimoradi et al., 2020; Lawrence et al., 2021; Wharton et al., 2020). Healthcare providers can reduce stigmatization and bias by using *person-first language*, for example, saying a person with obesity rather than an obese person (Obesity Action Coalition [OAC], n.d.). Providers should consider avoiding the term obesity when speaking directly with patients, as the word itself can carry negative conations, and studies show that patients prefer other terms such as plus size, high BMI, or excess weight (Auckburally et al., 2021; Ivezaj et al., 2020; Puhl & Himmelstein, 2018; Puhl, 2020). For this QI project paper, the medical term obesity will be used in person-first language, as this term is most prevalent in the literature.

Available Knowledge

The primary care setting is ideal for implementing obesity services because of the broad range of interventions available and the focus on the long-term relationship between the patient and the healthcare team (Marques et al., 2021). Effective interventions for obesity management in the PC setting include counseling on lifestyle modifications such as nutritional counseling (Ma et al., 2017; Marques et al., 2021), structured exercise regimens (Goryakin et al., 2018), behavioral counseling (LeBlanc et al., 2018; Lv et al., 2017; Tronieri et al., 2019), as well as pharmacological interventions and referrals for weight loss surgery (LeBlanc et al., 2018). The most effective treatment for obesity management is the combination of multiple strategies (Lv et al., 2017), with increased effectiveness when delivered in group versus individual formats (Abbott et al., 2021) and when conducted for at least six to twelve months (Marques et al., 2021; Semlitsch et al., 2019). Despite extensive research on the value of obesity interventions in primary care, PCPs face many barriers to providing quality obesity counseling and management, including limited time (Caterson et al., 2019; Kaplan et al., 2018; Simon & Lahiri, 2018), insufficient knowledge or formal training (Alfadda et al., 2021; Simon & Lahiri, 2018; Zevin et al., 2022), and discomfort surrounding conversations on weight (Simon & Lahiri, 2018). The significant barriers for PCPs delivering obesity management care necessitate a review of potential solutions to improve care for PWO.

A successful intervention to mitigate barriers for providers caring for PWO is education on evidence-based obesity management (Alfadda et al., 2021; Aveyard et al., 2016). One study found that online obesity care training and encouraging providers to integrate 30-second obesity-related counseling sessions during clinic visits resulted in positive patient outcomes, including weight loss (Aveyard et al., 2016), demonstrating that even small educational interventions have a significant impact on weight loss. Educating PCPs on structured change communication frameworks, including the 5 As (Ask, Advise, Assess, Assist, and Arrange) and motivational interviewing, have also been shown to

improve provider-patient communication (Fitzpatrick et al., 2016; Luig et al., 2020; Reading et al., 2020; Welzel et al., 2018). Evidence that these communication frameworks lead to weight loss is lacking (Makin et al., 2021; Reading et al., 2020), suggesting that they are an effective communication strategy but not an evidence-based weight-loss intervention. The literature underscores the need for educational initiatives on obesity management and communication strategies to overcome known barriers to providing evidence-based care for PWO in the PC setting.

Rationale

This QI project was guided by the Institute for Healthcare Improvement Model for Improvement (IHI MFI), a trusted framework for QI work (Institute for Healthcare Improvement [IHI], n.d.-b). As recommended by the IHI, a root cause analysis was completed using a cause-and-effect diagram prior to initiating this QI project (IHI, n.d.-a). The analysis demonstrated a need for increased access to primary care-based obesity management and a lack of a program guide for the current pilot WMP, limiting the reproducibility of the program by other providers (see Appendix A). Using the IHI MFI framework, Plan-Do-Study-Act (PDSA) cycles were used to test a series of small-scale changes for improvement (IHI, n.d.-b), allowing for frequent, minor improvements to the current WMP program and, ultimately, the creation of the program guide. The literature demonstrated the importance of provider education on obesity management and communication strategies (Alfadda et al., 2021; Aveyard et al., 2016), which is why the primary intervention for this QI project was an education session for PCPs on obesity management to increase the number of PCPs equipped to offer these services to patients, ultimately increasing access to PC-based obesity management services.

Specific Aims

The goal of this QI project was to increase access to holistic obesity management services in a primary care-based healthcare system. Four aims were set to reach this goal, with a project deadline of October 2022 (see Appendix B). The first aim was to evaluate the current WMP, and the second was to

create a program guide for the current pilot WMP. The third aim was for PCPs in the clinic to report increased knowledge and willingness to provide obesity management services and report the usefulness of the WMP guide for clinical practice after an educational session in August 2022. Lastly, the final aim of this QI project was to evaluate the program for areas of potential growth and present it to key stakeholders.

Methods

Local Context

The primary setting for this QI project was a private PC clinic in a suburban area in the Pacific Northwest, which is part of a healthcare system comprised of five clinics. Staff at the clinic included four PCPs (three nurse practitioners and one physician), four medical assistants (MAs), a lab technician, an office manager, a referral coordinator, and ancillary staff, including front desk receptionists and an IT support liaison. At the time of this QI project, the clinic offered services only to insured patients or those that could pay up-front for a visit. In September 2020, an NP within the practice developed a pilot WMP for PWO, offering office-based interventions over approximately 13 office visits. One MA received training to assist with program visits and helped gather appropriate patient handouts at the end of the visit. The program creator developed the curriculum using evidence-based articles and pre-existing resources from other healthcare systems. The secondary location for this QI project was a clinic in this primary-care network. The second clinic site had seven providers (two nurse practitioners and five physicians), with none that offered a WMP.

Interventions

Phase 1: Program Evaluation

Data on the existing program were collected and analyzed through chart reviews and included participation and retention rates, patient demographics, and relevant clinical outcomes such as weight (see Appendix C). Of the patients that completed the WMP, pre- and post-program data was collected

and recorded on a Microsoft Excel document (see Appendix C). For the first PDSA cycle, patient and staff feedback was obtained to incorporate into the program guide. Semi-structured interviews and questionaries were used to gather feedback from patients and medical staff, including the program director and the program medical assistant (MA). Baseline data, interview responses, and survey questionnaires were documented in Microsoft Excel.

Phase 2: Creation of the Program Guide

The second PDSA cycle involved using Microsoft Word and Canva to create a program guide based on the pilot WMP. Patient and provider feedback from phase one was incorporated into the guide. The program director reviewed and edited the WMP documents over multiple subsequent PDSA cycles. The final draft was reviewed and approved by the WMP provider and then dated and converted into PDFs (see Appendix D).

Phase 3: Provider Education

Two 30-minute trainings were delivered to all PCPs at their respective clinic locations during an educational lunch meeting in August 2022. The education sessions consisted of a Microsoft PowerPoint presentation, a review of the pilot WMP, and a presentation of the program guide. The presentation included bias and harm reduction measures, obesity statistics, communication and counseling techniques, and an overview of current evidence-based obesity management interventions in PC. A pre-survey was sent to all providers one week before these sessions via email through an online survey tool, *Qualtrics* (see Appendix E). This survey assessed providers' current knowledge and comfort level in providing interventions for obesity. Following the education sessions, all providers were sent a post-survey (see Appendix F) via email with a link to the *Qualtrics* survey.

Phase 4: Evaluation of Program and Potential Expansion

Following the education session, all providers in the two clinics were emailed a PDF copy of the WMP guide. Pre- and post-survey results from phase three of the project were reviewed, analyzed, and

documented in a Microsoft Excel document and reviewed with the program director. At the end of this QI project, a discussion occurred with the current program provider to reflect on changes made and discuss potential next steps for the program.

Study of the Interventions

The study of interventions evaluated the potential for outside factors affecting the interventions other than those formally addressed in this QI project. Staff members had an opportunity to provide additional comments on survey questionnaires. Furthermore, providers were asked open-ended questions regarding recent education and training on obesity, barriers to providing obesity care, and biases affecting their care for PWO. This feedback helped inform the analysis of the educational intervention and determine whether outside factors affected providers' responses.

Measures

The primary outcome measure for this project was to see if there was an increase in providers' knowledge and willingness to implement obesity management services after the educational sessions. The results of the pre-intervention survey were compared to the post-intervention survey to measure the primary outcome. The provider post-intervention survey measured the usefulness of the program guide for clinical practice. Process measures included the number of providers who attended the educational session and the number of staff that filled out survey questionnaires with a goal of 100% participation. Other process measures included completing the program evaluation, reading the program guide, and attending the PowerPoint presentation. Several balancing measures were involved in this QI project. One balancing measure included outside education providers may have already received, which could have impacted survey results. The provider pre- and post-survey questionnaire addressed this concern and included a question about outside education and training. A balancing measure not formally addressed in this QI project, but is a critical consideration for future projects, was the potential patient barriers to participating in and completing the WMP.

Analysis

Data collection for this QI project included quantitative and qualitative methods collected between July 2022 and August 2022. WMP participant data were collected through retrospective chart review and transcribed into Microsoft Excel. A 95% confidence interval was used when comparing pre- and post-program patient weight loss. Two people (the author and the WMP director) analyzed qualitative responses to patient and staff semi-structured interviews for theme identification. Pre- and post-survey results from Qualtrics were retrieved and documented in Microsoft Excel to evaluate the impact of the educational intervention. The survey data included provider responses on a Likert scale of 1-5, with one representing *strongly disagree* and five representing *strongly agree*. Averages from all responses were calculated in Microsoft Excel for each survey statement and then converted into bar graph form for ease of visualization. Qualitative survey responses were transcribed into Microsoft Excel using direct quotes and themes identified by the author and program director. Pre-intervention provider surveys filled out after the educational intervention were excluded from the data analysis.

Ethical Considerations

All staff in the clinic were informed of this project and provided verbal approval for quality improvement work to proceed. The participating clinic signed a letter of support that provided written consent to proceed with this project (see Appendix G). Additionally, this project was submitted to the Oregon Health and Sciences University (OHSU) Institutional Review Board (IRB) and deemed not human research before beginning this project (see Appendix H). Patient, staff, and provider participation in this improvement project was voluntary and communicated explicitly. Patients provided anonymous feedback with the assurance that their care would not be penalized or interrupted if they declined. Any results or feedback provided on survey questionaries throughout this project were kept anonymous, with no identifiers or characteristics of the participants recorded.

Results

Weight Management Program

Overall, the WMP had 14 active patients, 27 on the waitlist, nine who completed the program, and 23 that were paused or stopped as of August 2022. Of the nine patients that completed the WMP, the average weight loss was 14.3 lbs. [95% CI (10.2, 18.5)], and the average percentage of body weight loss was 5.8% [95% CI (4.1, 7.5)]. The length of time in the program ranged from 3-8 months, with an average of 5.7 months. See appendix C for detailed WMP data. A total of five patients volunteered to fill out a questionnaire about the WMP following program completion. Patients were asked to rate each section of the WMP, their overall experience, and provider sensitivity on a Likert scale of 0-10, with zero being the worst and ten being the best. Overall, the average ratings of WMP sections ranged from 9.2-9.8. The average overall experience rating was 9.8, and the average rating of providers' sensitivity was 10. Qualitative data responses included themes of empowerment, increased knowledge of tools and resources, and feelings of body positivity. Two patients participated in a semi-structured interview. Feedback for the WMP gathered from this interview included a preference for verbiage other than obesity, some concern for out-of-pocket office visit costs while participating in the program, and how beneficial it was to have a scheduled check-in time with the provider.

Provider Education Intervention

Pre-provider intervention surveys sent to the primary and secondary clinic sites had a response rate of 100% (n=4) and 86% (n=6), respectively. However, two surveys from the secondary clinic site were not included in the data analysis due to submission after the intervention. 37.5% of participants indicated that they had received continuing education or training on obesity in the last five years. Survey participants ranged widely in years of practice from 3-5 years to 20 years or more, with an average of 10-20 years in clinical practice. Barriers reported on the pre-intervention survey to providing obesity

management services in primary care included time (n=7), cost and insurance concerns (n=3), lack of knowledge, training, or continuing education (n=3), and lack of a developed program (n=1).

Post-intervention surveys had a response rate of 100% (n=4) at the primary site and 29% (n=2) at the secondary site. Survey responses from pre- and post-survey are available in Appendix I. Average confidence ratings in sufficient time to counsel on obesity service, routinely evaluating biases, knowing when to refer to bariatric surgery, prescribing non-pharmacologic and pharmacological interventions for obesity, and reports of strong knowledge in obesity management in PC increased from the pre- to post-intervention survey. There was no change in responses to the statement about providers' comfort level talking with patients about obesity from the pre-intervention survey responses. Provider willingness to provide obesity management services in primary care and openness to offering a WMP decreased slightly from the pre- to post-intervention survey.

On the post-intervention survey, providers were asked to rate three additional statements on a Likert Scale of 1-5. The three additional statements asked about the usefulness of the presentation, how useful the WMP guide is for practice, and if providers learned something that will improve their practice. All participants responded with a 4 (agree) or 5 (strongly agree), with an average rating of 5 for all three statements.

Discussion

Summary

The pilot WMP data showed that this program is an effective treatment modality for weight loss in the PC setting. The overarching aim of this QI project was to increase providers' knowledge of obesity management and increase providers' willingness to offer obesity management services. A 30-minute educational session increased providers' knowledge regarding obesity management but did not translate to an increased willingness to offer a WMP. The program guide was reported as highly useful to providers. Although providers did not report an increased willingness to offer a WMP after the

education session, all providers reported that they learned something new and plan to apply this knowledge to their practice, indicating the benefit of provider education. The strengths of this QI project include the methodology that showed the applicability and effectiveness of provider education and a WMP guide for clinical practice, even if providers have yet to express interest in offering a formal WMP.

Interpretation

Patients that completed the WMP spent an average time of 5.7 months in the program and had statistically significant weight loss and percent of body weight loss before and after the program. These results reflect the literature in showing that weight loss is most effective when interventions occur in the long-term (over at least six months) versus short-term (less than three months) (Marques et al., 2021; Semlitsch et al., 2019). Survey responses indicated that the most consistent barrier to providing obesity services is lack of time, consistent with reported barriers in previous studies (Caterson et al., 2019; Kaplan et al., 2018; Marques et al., 2021; Simon & Lahiri, 2018). Providers were less likely to offer services in their practice or a WMP post-intervention, indicating that a detailed assessment of barriers and facilitators would be beneficial. However, 100% of survey responders reported that the WMP guide would benefit their practice, indicating that providers may informally offer similar services to their patients following education. This QI project revealed the relatively short-term benefit of weight loss with an office visit-based WMP. Other primary care sites could implement similar approaches to care for PWO and assess long-term impacts on patients' weight and other health indicators.

Limitations

This QI project had several limitations, the most notable being the small sample size of WMP patients and provider participation in the education sessions, limiting statistical power (Shreffler & Huecker, 2022). Additionally, this project's focus on one healthcare system limits the generalizability of the results to other healthcare sites. A source of bias in data collection is that patients that paused or stopped the WMP were not included in statistical analysis, likely altering the positive weight loss data

and WMP survey responses. Another limitation of this QI project is that the design and timeframe did not allow for long-term follow-up to see if the interventions increased patient access to primary care-based obesity management services over time. Finally, providers were less willing to provide a WMP post-intervention. Investigating the reason behind the decreased willingness to offer the WMP was outside this project's scope but is worth examining in the future.

Conclusions

Obesity is a significant public health threat locally and nationally, and the PC setting is ideal for implementing effective interventions to combat potential adverse outcomes. To increase access to services for PWO, we must reduce barriers and equip PCPs to offer obesity management interventions. This pilot primary care-based WMP revealed the effectiveness of this approach to treating obesity. The WMP guide can be utilized in virtually any primary care setting to aid in an evidence-based long-term management approach for PWO. Educating providers can increase knowledge in several critical aspects of obesity management, such as bariatric surgery referrals or pharmacological interventions. Many barriers to providing these services remain, the most common barrier being lack of time. Future QI work on this topic should focus on solutions to this common barrier and evaluate the potential long-term effects of primary-care-based WMPs. PCPs can impact obesity trends in the U.S. by offering holistic obesity management services in the primary care setting.

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Appendix A

Cause and Effect Diagram

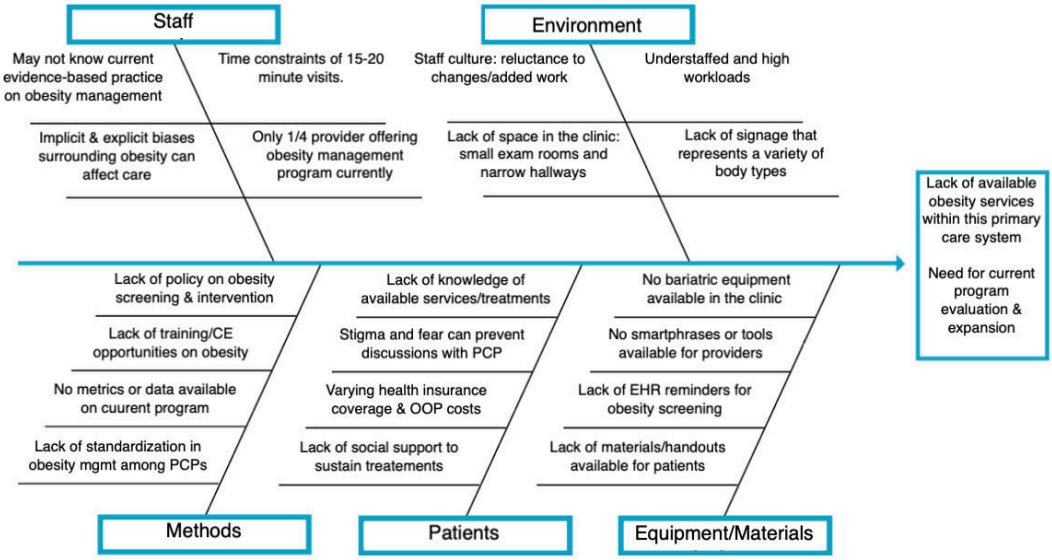
QI ESSENTIALS TOOLKIT: Cause and Effect Diagram

Before filling out this template, first save the file on your computer. Then open and use that version of the tool. Otherwise, your changes will not be saved.

Template: Cause and Effect Diagram

Team: Shelby Bowerly **Project:** DNP Proprosal

1) Input the effect you'd like to influence.
2) Input categories of causes for the effect (or keep the classic five).
3) Input causes within each category.



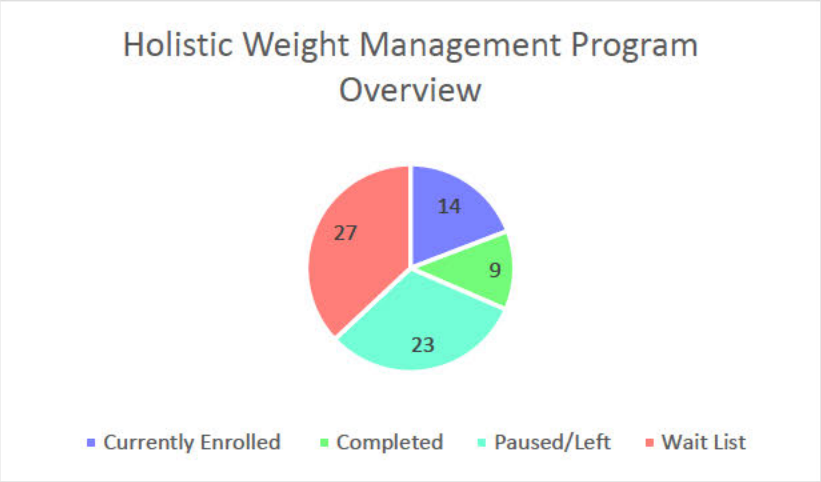
Appendix B

QI Project Timeline

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec-Mar
Finalize project design and approach (703A)	X							
Complete IRB determination or approval (703B)			X					
Phase 1 (703B) -Gather baseline program data -Patient interviews -Program provider interview -MA interview			X	X				
Phase 2 (703B) -Program guide creation			X	X				
Phase 3 (703B) -Pre-survey -Education Session (intervention) -Post-survey				X				
Phase 4 -Result analysis					X	X		
Final Data analysis (703B)						X		
Write sections 13-17 of final paper (703B)						X	X	
Prepare for project dissemination (703B)								X

Appendix C

Pilot Weight Management Program Data



Weight Management Program Data as of August 2022	
Patient Status	**Total #**
Currently Enrolled	14
Completed	9
Paused/Left	23
Wait List	27

Patient	Starting Weight (lbs)	Ending Weight (lbs)	Percent Weight Loss (%)	Total Weight Loss (lbs)	Total Time in Program (months)
Patient 1	253	225	11.07	28	5
Patient 2	274	267	2.55	9	6
Patient 3	299	291	2.68	8	7
Patient 4	208	194	6.73	13	6
Patient 5	181	173	4.42	8	8
Patient 6	327	308	5.81	19	6
Patient 7	237	218	8.02	19	4.5
Patient 8	281	271	3.56	10	3
Patient 9	209	194	7.18	15	6
		Standard deviation	2.64	6.32	
		Confidence norm	1.72	4.13	
		Mean	5.78	14.33	5.72
		Lower 95% CI	4.06	10.20	6
		Upper 95% CI	7.50	18.47	
		Avg w/ CI	5.8% [95% CI(4.1, 7.5)]	Mean 14.3lbs [95% CI(10.2, 18.5)]	
		P-values	0.014	0.012	

Appendix D

Weight Management Program Guide

VISITS 1-2

INTAKE

Tip: Make visit one a 40-minute appointment

HISTORY & PHYSICAL

HISTORY

- Include past medical history, family medical history, social history (including tobacco, alcohol, drug, and caffeine use), detailed nutrition intake, current exercise routines, sleep, social support, mental health, and patient health goals.
- Ask and document if there is a history of bariatric surgery, cholecystectomy, digestive system surgeries, or history of an eating disorder.
- Inquire and document if plans for pregnancy in the next year and current contraception.

PHYSICAL

- Conduct a complete physical examination, including ENT, thyroid, cardiovascular, respiratory, gastrointestinal, musculoskeletal, and skin.
- Obtain and document blood pressure in both arms, height and weight, BMI calculation, and waist circumference.

REFERENCES

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SCREENING

- Assess for metabolic conditions (such as Cushing's syndrome, thyroid dysfunction, or PCOS).
- Assess and document obesity-related conditions (such as HTN, hyperlipidemia, gout, type 2 diabetes, gallbladder disease, or non-alcoholic fatty liver disease (NAFLD).
  - NAFLD Risk Calculator
- Screen for Sleep Apnea
- Calculate ASCVD risk

LAB WORK

Visit 1:

- Order HbA1c, lipid Panel, TSH w/ reflex, ALT (if indicated to screen for NAFLD).
- Consider ordering the following labs based on clinical judgment: CMP, CBC w/ diff, Iron panel, B12, total and free testosterone (if hypogonadism suspected).

Visit 2:

- Review the above lab results at visit two and order any follow-up labs, as indicated.

PATIENT HOMEWORK

Visit 1:

- Contact insurance about weight loss medication coverage if interested.
- Make a list of favorite foods and meals.

Visit 2:

- Keep a food diary for one week (paper or phone app).
  - CDC Food Diary

VISITS 3-4

NUTRITION

Reminder: Nutrition therapy alone is not appropriate for obesity management but should always be paired with other interventions to improve health outcomes.

HISTORY

- **Review previous content:** Review the homework from visits 1 & 2.
- **Screening:** Screen for food insecurity and potential barriers to accessing nutritious foods.
- **History:** Review the patient's food diary. Conduct a detailed food intake history (including all meals, snacks, beverages, supplements, and vitamins). Discuss barriers to eating healthy.

EDUCATION

- Discuss **behavioral changes** effective for weight loss (such as goal setting, coping, self-regulation, and cognitive therapy or reframing strategies).
  - Review: Effective Psychological and Behavioural Interventions in Obesity Management (2020).
- Discuss **daily calorie needs** (can use MyPlate Plan to discuss this).
- **Provide nutrition education**
  - Emphasizes the benefits of eating fruits, vegetables, and whole grains. Discuss how to get a variety of proteins from seafood, lean meats, poultry, eggs, legumes, soy products, nuts, and seeds.
  - Educate on the importance of reducing processed foods with added sugars, sodium, saturated fats, trans fats, and cholesterol.
  - If appropriate, discuss options of balanced nutrition or diet plans, such as the Mediterranean or DASH diet.
- Ensure conversation focuses on **long-term changes** to nutrition habits and behaviors rather than short-term diet plans.

REFERRALS

- Consider referral to a dietician for more in-depth and personalized medical nutrition management.

PATIENT HOMEWORK

Visit 1:

- Review appropriate nutrition plans discussed during the visit.
- Keep a food diary for one week (paper or phone app).
- Review CDC website and resources:
  - https://www.cdc.gov/healthyweight/index.html
- Begin meal planning and bring your written plan to the next visit.

Visit 2:

- Fill out MyPlate Plan:
  - https://www.myplate.gov/myplate-plan
- Implement the meal plan that you created.
- Keep a food diary for one week (paper or phone app).

REFERENCES

Centers for Disease Control and Prevention. (2022a, June 3). Healthy eating for a healthy weight. https://www.cdc.gov/healthyweight/healthy_eating/index.html

Centers for Disease Control and Prevention. (2022b, June 3). Healthy weight, nutrition, and physical activity. https://www.cdc.gov/healthyweight/index.html

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VISITS 5-6

EXERCISE

HISTORY

- **Review previous content:** Review homework from the last visit. Revisit nutrition plans.
- **Screening:** Screen for access to exercise resources and potential barriers, such as time or finances.
- **History:** Past and current exercise routines, barriers to exercise, and social support.
- **Physical:** Assess cardiovascular and respiratory systems. Identify any potential musculoskeletal injuries or abnormalities that could impact exercise.

EDUCATION

- Discuss the benefits of exercise. You could review this CDC handout:
  - https://www.cdc.gov/physicalactivity/basics/adults/health-benefits-of-physical-activity-for-adults.html
- Recommend 150 minutes of moderate aerobic exercise per week and at least two days a week of muscle-strengthening activities.
  - Make a specific plan with the patient that fits with their lifestyle.
- Discuss warning signs, such as chest pain or dizziness with exercise, to report immediately.
  - Consider educating on monitoring heart rate (HR) during exercise and when to stop exercise based on HR and symptoms.
- **Visit 1:** Create an individualized aerobic exercise plan that includes a warm-up and stretching.
- **Visit 2:** Create an individualized strength-building exercise plan.

REFERENCES

Centers for Disease Control and Prevention. (2022, June 2). How much physical activity do adults need? https://www.cdc.gov/physicalactivity/basics/adults/index.htm

Wharton, S., Lau, D., Vallis, M., Sharma, A. M., Biertho, L., Campbell-Scherer, D., Adamo, K., Alberga, A., Bell, R., Boulé, N., Boyling, E., Brown, J., Calam, B., Clarke, C., Crowshoe, L., Divalentino, D., Forhan, M., Freedhoff, Y., Gagner, M., Glazer, S., ... Wicklum, S. (2020). Obesity in adults: A clinical practice guideline. CMAJ: Canadian Medical Association Journal, 192(31), E875–E891. https://doi.org/10.1503/cmaj.191707

Remember that even small changes in activity level can positively impact health outcomes.

REFERRALS

- Consider a referral for a personal or group medical exercise program.
- Consider a referral for a physical therapist.

PATIENT HOMEWORK

Visit 1:

- Continue with the nutrition plan.
- Start the **aerobic exercise plan** we discussed and put it on your calendar. Start tracking your exercise on paper or a fitness tracking app.
- Visit this CDC website and read about **aerobic exercise:**
  - https://www.cdc.gov/physicalactivity/basics/adults/index.htm.
- Identify and reach out to a workout buddy or accountability partner. Identify how they will offer support (be specific).
- Consider subscribing to a fitness program (there are free programs on YouTube).

Visit 2:

- Continue with nutrition and aerobic exercise plan.
- Add **muscle strength training** to your aerobic workout plan.
- Continue to check in with your accountability partner.
- Continue to track your exercise on paper or fitness tracking app.
- Visit this CDC website and read about **muscle strengthening** exercises:
  - https://www.cdc.gov/physicalactivity/basics/adults/index.htm

VISITS 7-8

MEDICATIONS

Only use medications in conjunction with nutrition, exercise, and behavior-modification interventions.

INDICATIONS

- BMI ≥30 kg/m² or ≥27 kg/m² with obesity co-morbidities (such as HTN, Sleep Apnea, or Type 2 DM).
- **Remember, not all patients need medications for weight loss.**

CONTRAINDICATIONS

- Pregnancy, anorexia, or bulimia.
- Caution with renal or hepatic impairment (drug-dependent).
- Each medication has unique considerations. Review contraindications and precautions for each medication you are considering.
- Avoid sympathomimetic agents, such as phentermine, if uncontrolled hypertension or cardiovascular disease present.

EDUCATION:

- **Review previous content**: Review homework from the last visit. Revisit nutrition and exercise plans.
- Update medication list, and include over-the-counter medications, supplements, and vitamins.
- Assess for current medications contributing to weight gain and discontinue or switch medications if possible.
- Assess if plans for pregnancy before starting medications.
- Screen for comorbidities, such as prediabetes or diabetes, and psychiatric conditions that would require closer monitoring.
- Review cost of medications and insurance coverage with the patient.

Current FDA-Approved Weight Loss Medications: Orlistat (Xenical, Al i), Phentermine-Topiramate (Qsymia), Naltrexone-Bupropion (Contrave), Liraglutide (Saxenda), Semaglutide (Wegovy), and Cellulose and Citric Acid (Plenity).

MONITORING

- HCG testing, as indicated.
- Side effects such as GI intolerance or insomnia.
- Assess treatment efficacy and safety monthly for the first 3 months, then at least every 3 months.
- If medication is effective and tolerated well (weight loss >5% of body weight at 3 months), continue with the medication.
- If ineffective (weight loss <5% at 3 months) or if there are safety or tolerability concerns, discontinue and evaluate potential alternatives, including a potential referral to a specialist.

PATIENT HOMEWORK

- Continue nutrition and exercise plan.
- Keep a log of any potential side effects you experience from the medication we started today.
- [Per provider discretion] Keep a log of your weight. This data will help us know if the medication is helpful.

REFERENCES

Apovian, C. M., Aronne, L. J., Bessesen, D. H., McDonnell, M. E., Murad, M. H., Pagotto, U., Ryan, D. H., Still, C. D., & Endocrine Society (2015). Pharmacological management of obesity: An Endocrine Society clinical practice guideline. The Journal of Clinical Endocrinology and Metabolism, 100(2), 342–362. https://doi.org/10.1210/jc.2014-3415

National Institute of Diabetes and Digestive and Kidney Diseases. (2021). *Prescription medications to treat overweight & obesity*. https://www.niddk.nih.gov/health-information/weight-management/prescription-medications-treat-overweight-obesity

WEIGHT LOSS MEDICATION OVERVIEW

- **Orlistat (Xenical, Alli)**:
  - Initial dose: 120mg TID w/ meal containing fat (during or up to 1 hour after the meal). Omit dose if a meal is missed or contains no fat.
  - Main side effects: Diarrhea, flatulence, abdominal pain, headache, fatigue, menstrual changes, & URIs.
  - Tips: Prescribe a multivitamin at bedtime due to impaired absorption of fat-soluble vitamins.

- **Phentermine-topiramate (Qsymia)**:
  - Initial dose: Phentermine 3.75 mg/Topiramate 23 mg once daily for 14 days. After 14 days, titrate per dosing instructions.
    - Consider gradually tapering or escalating the dose if ≥3% of baseline body weight is not lost at 12 weeks.
    - Max dose= phentermine 15 mg/topiramate 92 mg once daily.
    - Short-term phentermine monotherapy (up to 37.5mg) is approved for short-term use (<12 weeks).
  - Main side effects: Insomnia, dry mouth, constipation, dizziness, fatigue, & taste changes. Can cause CV abnormalities, such as palpitations.
  - Tips:
    - Consider baseline ECG before starting this medication.
    - Avoid in patients with hyperthyroidism, glaucoma, or cardiovascular disease.
    - Ordering Phentermine and Topiramate separately can lead to savings for the patient.

- **Naltrexone-bupropion (Contrave)**:
  - Initial dose: One tablet (naltrexone 8 mg/bupropion 90 mg) once daily in the morning for 1 week. After 1 week, titrate per dosing instructions. Do not administer with high-fat meals.
    - Modify dose for moderate to severe hepatic or renal impairment.
    - Consider discontinuation if weight loss is <4%- 5% of baseline after 3 months.
  - Main side effects: Constipation, diarrhea, N/V, dizziness, dry mouth, HTN, increased HR, headache, and trouble sleeping.
  - Tips: Prescribing Naltrexone and Bupropion separately can lead to savings for the patient.

- **Liraglutide (Saxenda)**:
  - Initial dose: Initial: 0.6 mg sub-q once daily for 1 week; increase by 0.6 mg daily at weekly intervals to a target dose of 3 mg sub-q once daily.
    - Evaluate change in body weight after 12 weeks at max tolerated dose or 16 weeks after initiation of therapy. Discontinue if <4% to 5% of baseline body weight loss occurs.
  - Main side effects: Nausea, diarrhea, constipation, abdominal pain, headache, hypoglycemia, and weakness.
  - Tips:
    - Avoid concomitant use with a DPP-4 inhibitor.
    - Consider a dose reduction of insulin and/or insulin secretagogues (sulfonylureas, meglitinides) to avoid hypoglycemia.
    - Can increase the risk of developing pancreatitis.

- **Semaglutide (Wegovy)**:
  - Initial dose: Week 1 through week 4: 0.25 mg once weekly. After week 4, titrate per dosing instructions.
  - Main side effects: Nausea, vomiting, diarrhea, constipation, abdominal pain, headache, burping, hypoglycemia, & dizziness.
  - Tips: Same as Liraglutide (see above).

- **Cellulose and Citric Acid (Plenity)**:
  - Dosing: Oral: 2.25 g (3 capsules) twice daily (before lunch and dinner). Take with water 20 to 30 minutes before lunch and dinner. After meals, drink an additional 16 ounces of water.
  - Main side effects: Bloating, stomach pain, diarrhea or constipation, and flatulence. Can increase depression and suicidal ideation.
  - Tips:
    - FDA-approved for BMIs of 25 to 40 kg/m2 when used with diet and exercise.
    - This medication is not systemically absorbed and does not require renal or hepatic impairment dosing adjustments.

WEIGHT LOSS MEDICATION OVERVIEW

Caution: Guidelines discourage the use of off-label medications for weight loss due to a lack of sufficient safety and efficacy data.

CLINICAL CONSIDERATIONS

Co-Existing Condition Prescribing Considerations:

- **Type 2 DM:** Use Metformin plus medications that promote weight loss, such as GLP-1 analogs or SGLT-2 inhibitors.
- **CVD and Cardiac Arrhythmias:** Non-sympathomimetics, such as orlistat, is recommended. Could consider GLP-1 as well.
- **Mental Health Conditions:** Monitor patients for mood disorders, depression, and suicidal ideation. Consider Or istat, Liraglutide, and Phentermine/Topiramate ER for those with depression or mood disorders.

Weight Gain as a Medication Side Effect:

- Comprehensive list of medications that cause weight gain: UpToDate
- For patients on insu in for diabetes, consider adding Metformin and/or GLP-1 to avoid the potential weight gain potential to insulin.
- For patients on anti-depressants or anti-psychotics, consider weight-neutral options, if appropriate.
- Consider oral versus injectable contraceptive options to prevent weight gain.
- Try limiting corticosteroids. Instead, use NSAIDs for patients with chronic inflammatory diseases.
- If you need to use an anti-histamine, choose one with less central nervous activity to prevent weight gain.

Cost:

- Weight loss medications can be extremely costly.
- Not all insurance plans will cover weight-loss medications.
- **Tip:** some medications you can prescribe generically and separately to significantly lower costs for the patient.
  - **Example**: Phentermine-Topiramate (Qsymia)
    - Prescribe Phentermine and Topiramate separately instead of Qsymia.

Length of Treatment:

- Not all medications have FDA approval for long-term use. Look up each drug's indications for the length of use before prescribing.
- Even those studied for long-term use generally only have safety data for 1-2 years.
- Length of treatment should be a shared-decision making conversation, as gradual weight gain typically occurs after stopping medications.
- Providers should consider a referral for weight-loss (bariatric) surgery to sustain weight loss when appropriate.

Monitoring:

- Monitor weight, BMI, and waist circumference.
- Monitor for depression, anxiety, mood changes, or suicidal ideation, which has occurred with weight loss medication therapy.

RESOURCES/REFERENCES

Click Links to go to Resource:

- Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity (2016)
- Lexicomp Online (2022)
- N H: Prescription Medications to Treat Obesity (2022)
- Obesity in Adults: A Clinical Practice Guidelines (2020)
- Obesity Medicine Association: Obesity Algorithm (2021)
- Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline (2015)
- UpToDate: Obesity in Adults: Drug Therapy (2022)

VISITS 9-10

SLEEP

Obesity increases the risk of obstructive sleep apnea (OSA), insomnia, and restless leg syndrome. Annual screening for OSA and sleep disturbances is recommended.

VISIT OVERVIEW

Review previous content: Review homework from the last visit. Revisit diet, exercise, and medication plan effectiveness.

- **Sleep History:** Ask about average bedtime, waketime, and the total number of hours of sleep. Discuss bedtime routine. Ask about daytime naps, exercise (including timing), caffeine, and alcohol use. Inquire if the patient wakes up at night, from what, and how many times. Ask if they have ever had problems with sleep or been diagnosed with any sleep disorders.
- **Medication & Substance Screening**: Inquire about any prescription or over-the-counter sleep aids. Assess if other medications, alcohol, or drugs are used as a sleep aid
  - Can use formal screening tools, such as AUDIT-C.
- **Medical History**: Inquire and address medical conditions or symptoms that contribute to poor sleep, including but not limited to mental health conditions, restless leg syndrome, nocturia, pain, trouble breathing, and medication side effects.
- **Sleep Apnea Screening:** Inquire about sleep apnea symptoms or history–ask about snoring, periods of apnea, motor vehicle accidents, history of enlarged tonsils or adenoids, or chronic nasal obstruction. Inquire about personal or family history of sleep apnea. If they have OSA, ask if they use a CPAP machine consistently.
- **Physical Exam:** Complete an ENT exam, and assess for anatomic abnorma ities (i.e., deviated septum). Measure neck circumference.

SCREENING

- Screen for Sleep Apnea with STOP-BANG Questionnaire.
- Consider other screenings appropriate based on history, such as the Epworth Sleepiness Scale.

REFERRAL

- Refer to sleep medicine for a sleep study for positive screens for sleep apnea.

MEDICATIONS

- Consider the need for referral for cognitive behavior therapy and/or sleep medications if sleep hygiene measures are ineffective.
  - UpToDate Insomnia Treatment

PATIENT HOMEWORK

- Continue with nutrition, exercise, and medication plans.
- Review evidence-based sleep hygiene measures to improve sleep
  - https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html.
- Create a bedtime routine and try to be consistent with the routine every night.

REFERENCES

Apovian, C. M., Aronne, L. J., Bessesen, D. H., McDonnell, M. E., Murad, M. H., Pagotto, U., Ryan, D. H., Still, C. D., & Endocrine Society (2015). Pharmacological management of obesity: An Endocrine Society clinical practice guideline. The Journal of Clinical Endocrinology and Metabolism, 100(2), 342–362. https://doi.org/10.1210/jc.2014-3415

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Obesity Medicine Association. (2021). *Obesity Algorithm*. https://obesitymedicine.org/wp-content/uploads/2021/01/2021-Obesity-Algorithm.pdf

VISITS 11-12

MENTAL HEALTH

People with obesity are at increased risk for mental illness, such as depression, anxiety, and suicidality.

VISIT OVERVIEW

Review previous content: Review homework from the last visit. Revisit diet, exercise, medication, and sleep plan effectiveness.

- **Mental Health History:**
  - Inquire about any history of mental disorders and medication history. Inquire about current stress, coping strategies, fee ings of anxiety or depression, emotional eating patterns, eating disorders (DSM criteria for binge eating), and social support.
  - Inquire about current or past counseling services.

- **Medication & Substance Use:**
  - Inquire about any prescription or OTC medications used for mental health.
  - Assess for substance use (including prescription drug misuse, alcohol, tobacco, or drug use).
    - Can use formal screening tools, such as:
      - CAGE and/or AUDIT-C for alcohol use
      - DAST-10 for drug use
      - ORT for narcotic use
  - If positive screens, follow **SBIRT**: Screening, Brief Intervention, and Referral to Treatment
    - SBIRT Oregon Resource

- **Educate:**
  - Educate on the importance of meditation and mindfulness to decrease stress and improve health.
    - Review this NIH article
  - Discuss the correlation between stress and weight gain.
  - Discuss feelings surrounding body image and cultural influences. Discuss the importance of body positivity.
  - Consider the role of counseling and medications for mental illness, if appropriate, based on assessment.
    - If starting an antidepressant, consider a medication that does not cause weight gain.
      - See chart on UpToDate.

SCREENING

- Screen for Anxiety with GAD-7 screen
- Screen for Depression with PHQ-9 screen
- Screen for Suicide Risk

REFERRAL

- Consider referral or recommendation for counseling services or cognitive behavior therapy.
- Consider referral to a psychiatric specialist for medication management.
- Consider referral or recommendation to local support groups.

PATIENT HOMEWORK

- Continue nutrition, exercise, medication, and sleep plan.
- If a medication was started today, monitor for any side effects.
- Try to do a guided meditation or mindfulness activity daily. You can download and pay for an app or find meditation or mindfulness videos free online.
- Make a list of activities that bring you joy. Try to implement these activities into your week.
- Look at the ist of counseling services and reach out to schedule a visit.

REFERENCES

Centers for Disease Control and Prevention. (2022, July 7). Health effects of overweight and obesity. https://www.cdc.gov/healthyweight/effects/index.html

Pascoe, M. C., Thompson, D. R., Jenkins, Z. M., & Ski, C. F. (2017). Mindfulness mediates the physiological markers of stress: Systematic review and meta-analysis. Journal of Psychiatric Research, 95, 156–178. https://doi.org/10.1016/j.jpsychires.2017.08.004

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FINAL VISIT

WRAP UP & REFFERALS

VISIT OVERVIEW

Review previous content: Review homework from the last visit. Revisit diet, exercise, medication, sleep, and mental health plan effectiveness.

- **Long-term Plan:** Have a conversation with the patient about follow-up and the appropriate length of time until the next visit.
- **Referrals:** Consider any referrals for long-term support, including an exercise program, physical therapist, dietician, or mental health counselor. Consider referral for bariatric surgery (see column to the right).
- **Lapses & Relapse**:
  - **Lapse:** Brief and minor slips in lifestyle changes and weight loss efforts.
  - **Relapse:** A return to previous habits and return of weight.
  - Lapses are *normal*! Having a plan for these times is key. Discuss some strategies to prevent relapse.

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Remember: the long-term goal of this program is not weight loss but treating underlying causes of obesity and improving overall health.

BARIATRIC SURGERY

- Bariatric surgery is a **safe** and **effective** intervention for high-risk patients with obesity.
- Indications for referral:
  - BMI ≥40 kg/m2, or BMI ≥35 kg/m2 with an obesity-related comorbidity*
    - *comorbidities include type 2 diabetes (T2DM), high risk for T2D, poorly controlled HTN, nonalcoho ic fatty liver disease/nonalcoho ic steatohepatitis, OSA, osteoarthritis of the knee or hip, and urinary stress incontinence.
  - Consider referral for BMI 30 to 34.9 kg/m2 with T2DM and inadequate glycemic control despite lifestyle modifications and medical therapies.
  - Quick Overview of Bariatric Surgery:
    - Obesity Action Coalition
    - NIH: Weight-loss (Bariatric) Surgery

PATIENT HOMEWORK

- Congratulations on completing this program! You worked hard, and we are proud of you.
- Continue nutrition, exercise, sleep, medication, and mental health plans.
- Work through this worksheet to think of ways to prevent relapse.
  - https://www.cdc.gov/diabetes/prevention/pdf/posthandout_session11.pdf
- Remember to follow up at least annually for preventative visits and more frequently depending on your medical conditions.

Appendix E

Provider Pre-Intervention Survey

Q1. How many years have you been a provider?

- ○ Less than a year (1)
- ○ 1-3 years (2)
- ○ 3-5 years (3)
- ○ 5-10 years (4)
- ○ 10-20 years (5)
- ○ 20+ years (6)

Q2. Have you received continuing education or training on obesity management in the last 5 years? Answer yes or no. If yes, please describe.

- ○ Yes (1) __

Comment:

- ○ No (2)

Q3. Please rate to what extent you agree with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have strong knowledge regarding obesity management in primary care (1)	○	○	○	○	○
I feel confident prescribing non-pharmacologic interventions for obesity (including but not limited to diet, exercise, and behavioral counseling) (2)	○	○	○	○	○
I feel confident prescribing pharmacologic interventions for obesity (3)	○	○	○	○	○
I feel comfortable talking with patients about their weight, BMI, and diagnosis of obesity (4)	○	○	○	○	○
I feel confident knowing when to refer someone for bariatric surgery (5)	○	○	○	○	○
I routinely evaluate my own biases when caring for people with obesity (6)	○	○	○	○	○
I have sufficient time during an office visit to counsel on obesity services (7)	○	○	○	○	○
An educational session on obesity management in primary care would be beneficial (8)	○	○	○	○	○

I am willing to provide obesity management services in my primary care practice (9)	○	○	○	○	○
I am open to offering an office-visit based weight management program (10)	○	○	○	○	○

Q6. What barriers do you face in providing obesity services in primary care?

_____

Q7. Do you have any additional comments, feedback, or questions?

_____

Appendix F

Provider Post-Intervention Survey

Q1 How many years have you been a provider?

- ○ Less than a year (1)
- ○ 1-3 years (2)
- ○ 3-5 years (3)
- ○ 5-10 years (4)
- ○ 10-20 years (5)
- ○ 20+ years (6)

Q3 Please rate to what extent you agree with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have strong knowledge regarding obesity management in primary care (1)	○	○	○	○	○
I feel confident prescribing non-pharmacologic interventions for obesity (including but not limited to diet, exercise, and behavioral counseling) (2)	○	○	○	○	○

I feel confident prescribing pharmacologic interventions for obesity (3)	○	○	○	○	○
I feel comfortable talking with patients about their weight, BMI, and diagnosis of obesity (4)	○	○	○	○	○
I feel confident knowing when to refer someone for bariatric surgery (5)	○	○	○	○	○
I routinely evaluate my own biases when caring for people with obesity (6)	○	○	○	○	○
I have sufficient time during an office visit to counsel on obesity services (7)	○	○	○	○	○
The educational session on obesity management in primary care was beneficial (8)	○	○	○	○	○

I am willing to provide obesity management services in my primary care practice (9)	○	○	○	○	○
I am open to offering an office-visit based weight management program (10)	○	○	○	○	○

Q6 Please rate to what extent you agree with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)
The presentation on Obesity in Primary Care was informative and useful for my practice (1)	○	○	○	○	○
The Weight Management Program Guide will be beneficial for my practice (2)	○	○	○	○	○
I learned something during the presentation that will improve my practice (3)	○	○	○	○	○

Q7. Do you have any additional comments or feedback?

_____

Appendix G

Letter of Support from Clinical Agency

Letter of Support from Clinical Agency

Date: *06/28/2022*

Dear *Shelby Bowerly,*

This letter confirms that I, *Megan Monty*, allow *Shelby Bowerly* (OHSU Doctor of Nursing Practice Student) access to complete her DNP Final Project at our clinical site. The project will take place from approximately *6/28/22* to *01/01/23.*

This letter summarizes the core elements of the project proposal, already reviewed by the DNP Project Preceptor and clinical liaison (if applicable):

- **Project Site:**
  - [redacted]
- **Project Plan: Use the following guidance to describe your project in a brief paragraph.**
  - Identified Clinical Problem: *Need for weight management program evaluation and expanded access to primary-care-based obesity management services.*
  - Rationale: *This project will be guided by the Institute for Healthcare Improvement Model for Improvement (IHI MFI). A root cause analysis identified a need for increased access to holistic primary care-based obesity management and a need to evaluate and create a program guide for reproducibility of the current weight-management program. The literature demonstrated the importance of provider education on obesity management and communication strategies for PCPs to offer these services. Creating a written guide for the existing program and educating providers on obesity management will increase the number of providers equipped to provide these services to patients, ultimately increasing access to obesity services and meeting the project's aims.*
  - Specific Aims: *1) Evaluate the current weight-management program. 2) Create a guide for the current program that describes the topics covered over 13 office visits. 3) Providers to report an increase in knowledge on obesity, comfort level in discussions with patients regarding obesity, and willingness to provide obesity services after an educational session. 4) Evaluate the changes to the program and identify the next steps and areas for improvement.*
  - Methods/Interventions/Measures: *Phase 1: Chart review for program statistics. Semi-structured interview with weight-management program participants, program director, and MA. Phase 2: The program guide will be typed into Microsoft word. The program director will review and make edits as appropriate. Final Documents will be converted to PDFs and saved on the clinic hard drive. Phase 3: A 30-minute provider education using PowerPoint will occur in September 2022. A pre-and post-survey will be sent to all providers. Phase 4: Analysis of pre-and post-survey results and quality improvement project findings.*
  - Data Management: *Data will be collected and transcribed into Microsoft Word and Microsoft Excel. Surveys will be completed through Qualtrics and sent via email to all providers. All documents will be saved onto the clinic hard drive and password protected. All data collected through this project will be de-identified, with no patient identifiers used.*
  - Site(s) Support: *This site will allow access to weight-management program materials and patient lists. This site will authorize interviews with staff and patients and support an education session for providers during a scheduled staff meeting.*

During the project implementation and evaluation, *Shelby Bowerly* will provide regular updates and communicate any necessary changes to the DNP Project Preceptor.

Our organization looks forward to working with this student to complete their DNP project. If we have any concerns related to this project, we will contact *Shelby Bowerly* and *Jonathon Soffer* (student's DNP Project Chairperson).

Regards,

[redacted]

DNP Project Preceptor — Email/Phone

6/27/22

Date Signed

Appendix H

IRB Approval

IRB MEMO

Research Integrity Office
3181 SW Sam Jackson Park Road - L106RI
Portland, OR 97239-3098
(503)494-7887 irb@ohsu.edu

NOT HUMAN RESEARCH

July 5, 2022

Dear Investigator:

On 7/5/2022, the IRB reviewed the following submission:

Title of Study:	Increasing Access to Primary-Care Based Obesity Management Services: A Quality Improvement Project
Investigator:	Jonathan Soffer
IRB ID:	STUDY00024620
Funding:	None

The IRB determined that the proposed activity is not research involving human subjects. IRB review and approval is not required.

Certain changes to the research plan may affect this determination. Contact the IRB Office if your project changes and you have questions regarding the need for IRB oversight.

If this project involves the collection, use, or disclosure of Protected Health Information (PHI), you must comply with all applicable requirements under HIPAA. See the HIPAA and Research website and the Information Privacy and Security website for more information.

Sincerely,

The OHSU IRB Office

Appendix I

Pre- and Post-Intervention Provider Survey Results

	I have strong knowledge regarding obesity management in primary care	I feel confident prescribing non-pharmacologic interventions for obesity (including but not limited to diet, exercise, and behavioral counseling)	I feel confident prescribing pharmacologic interventions for obesity	I feel comfortable talking with patients about their weight, BMI, and diagnosis of obesity	I feel confident knowing when to refer someone for bariatric surgery	I routinely evaluate my own biases when caring for people with obesity	I have sufficient time during an office visit to counsel on obesity services	I am willing to provide obesity management services in my primary care practice	I am open to offering an office-visit based weight management program
Site #1 Pre	3	4	3	4	3	3	2	5	4
Site #2 Pre	3	4	3	5	4	3	2	4	3
Pre-Intervention Average Responses (n=8)	3	4	3	5	4	3	2	5	4
Site #1 Post	4	4	4	4	4	3	3	5	4
Site #2 Post	5	5	4	5	5	4	2	3	2
Post-Intervention Average Responses (n=6)	5	5	4	5	5	4	3	4	3